

Kanaha Beach Master Plan

Comments by Maui Green & Beautiful



“Caring for the Āina through preservation, protection and education“.

KANAHA BEACH PARK is enjoyed by residents and visitors and provides IRREPLACEABLE HABITAT for native flora and fauna



Over \$125,000 of federal funds have been invested in restoration activities for 88 acres of Maui's Kahana Beach Park



WILD COASTS: RESTORATION OF KANAHA BEACH, MAUI

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BEFORE



ABSTRACT

Kahana Beach Park, on the island of Maui, is an example of a shift in the paradigm of management of coastal beach parks. These crown jewels of Hawaiian ecosystems have historically either become neglected dumping grounds or highly urbanized concrete jungles. "Wild coasts" is a management approach that maximizes both conservation value and recreational opportunity. Coastal areas offer many advantages for restoration, including harsh growing conditions that favor native plants, unique substrates, hardy indigenous species, and ease of access. The four main steps in restoration of wild coasts are protection, removal of non-native plants, planting of native plants, and maintenance. We have found that after the initial establishment phase, maintenance costs decrease dramatically in restored areas. Additionally, native plants and animals begin to flourish. Native Hawaiian coastal species benefiting from restoration include plants such as ohia (*Sebania tomentosa*), popoia (*Solanum nelsonii*), and maui (*Goussieria tomentosa*); insects such as long-horned beetles (*Phylloscopus* sp.) and moths (*Oenodes* spp.); and birds such as black-necked stilts (*Himantopus mexicanus knerioides*) and numerous species of shorebirds. Over the past four years, a mile and a half of coastline at Kahana Beach, with about 75 acres of coastal dunes and wetlands, has been restored using volunteer labor. Wild coasts offer a biologically sensitive alternative to management of coastal resources, and Kahana Beach can serve as a successful model that can be replicated elsewhere.

MATERIALS AND METHODS

There are four main steps in restoration of wild coasts.

- **Protection:** The main tool for protecting the sensitive areas of Kahana Beach Park was a post and rail vehicle barricade. The vehicle barricade used 6 inch by 6 inch reinforced concrete posts spaced 8 feet apart, connected together with 6 inch by 2 inch by 16 foot boards. This is by far the most effective way to delineate parking areas and to keep vehicles off sensitive areas, while allowing ample public access to the area.
- **Removal of non-native plants:** There were many native plants at Kahana Beach, but there were many more non-native plants. Once the area was secure, non-native plants were removed using predominantly volunteer labor. The main plants removed were kiawe (*Prosopis pallida*), pluchea (*Pluchea* spp.), and buffel grass (*Cenchrus ciliaris*). The disposal of debris can be very expensive, but local municipalities and companies helped with this.
- **Planting native plants:** Once the area was secure and the non-native plants had been removed, native plants were planted. The native plants were collected from as near as possible to Kahana Beach. In general all the species are from Maui, with a few notable exceptions such as the popoia (*Solanum nelsonii*) which has presumably gone extinct on Maui, so material from the Maui Nui island of Molokai was used. Species that have done well include popoia, akiki (*Spermbolus virginicus*), ohia (*Sebania tomentosa*), maui (*Mycosium nandrolense*), and maui (*Goussieria tomentosa*).
- **Maintenance:** The maintenance costs have decreased dramatically in areas that are secure, weed free, and have been re-planted with natives. The main maintenance tasks in restored areas are weed control after the winter rains, rubbish pick-up, and occasional repair of the vehicle barricade. Phase I at Kahana Beach, an area of about



Vehicle barricade.



Amateur volunteers ready to clear non-native weeds.



Ohia (*Sebania tomentosa*) Maui (*Goussieria tomentosa*)

Another \$150,000 was raised for 1700 ft of vehicle barriers to protect dunes



Community Partners with USGS to Restore Coastal Ecosystem on Maui

Background

Kanahā Beach Park is a heavily-visited, publicly-owned coastal park on the north shore of the Hawaiian Island of Maui (Figure 1). A broad white sand beach with plenty of shade trees and breezes favorable for wind sports, Kanahā is a popular spot for swimming, windsurfing, canoeing, diving, kitesurfing, polefishing, and beach volleyball, among other recreational activities.

Traditionally, beach parks in Hawai'i have been managed for recreational use, rather than ecosystem protection. Overuse, vehicle traffic, and litter had transformed Kanahā Beach into a degraded coastal zone with little value but great potential as a habitat for native plants and animals. In 2001, the USGS began providing scientific understanding of invasive species management and native ecosystem ecology to a collaborative, volunteer-driven effort to restore this ecosystem.

Figure 2. A contractor (top right) constructs the vehicle barrier that was finished by volunteers (bottom right). Vegetation grows back after vehicle traffic is eliminated (below).



Before

After



**Kanahā
Beach Park**

USGS Pacific Islands Coastal Program Funding

RECOGNIZED UNIQUE HABITAT PRESENT at KANAHA

- **Over 30 species of native plants w/ traditional Hawaiian use-
some rare/endangered**
- Coastal wetlands and native waterfowl nesting area
- Habitat for rare and endangered native insects
- Habitat for native shorebirds
- Limu gathering area and reefs
- Protection of coastal dune system



RESOURCE: KANAHA BEACH PARK WETLANDS- low-lying wetlands area

- protects ocean water quality
- home to numerous native coastal plants, birds, insects, fish
- includes rare and/or endangered flora & fauna



RESOURCE: KANAHA BEACH PARK DUNES

- Dunes protect and assist the wetland areas.
- Cultural, recreational and aesthetic qualities.
- Ecosystem benefits: flood protection, sediment filtration, wildlife habitat, biodiversity



10.28.2012

Conservation Plan Map - Kanaha Beach WRP

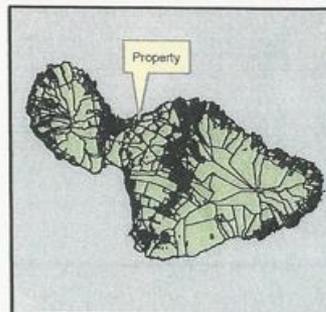


Legend

WRP FY2006
Practices

Practice name

- Conservation Cover
- Pest Management
- Tree/Shrub Establishment
- Wetland Restoration

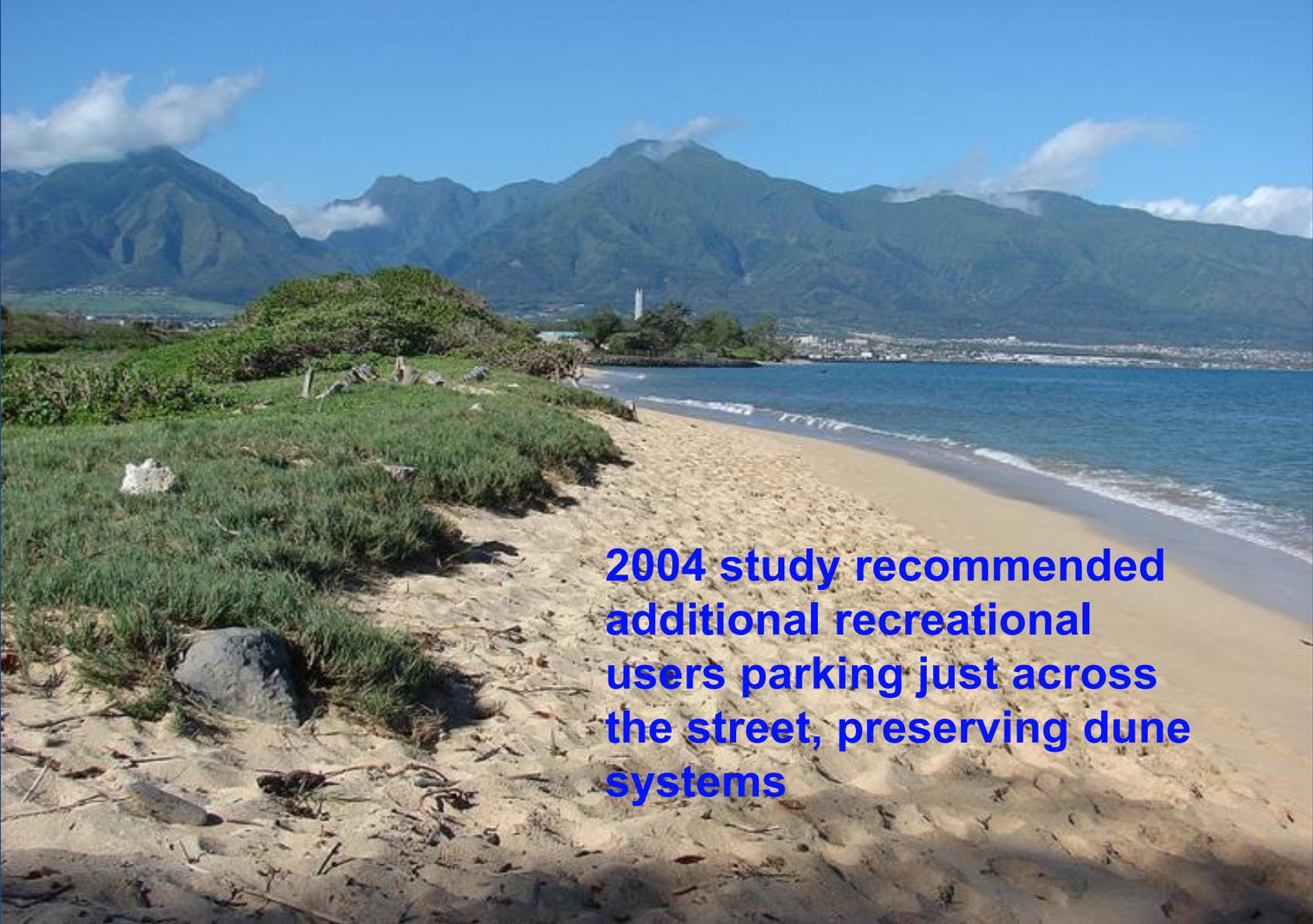


Entire Kanaha Beach Park designated State Conservation District:
“Limited Subzone”

“Land susceptible to floods and soil erosion and inundation by tsunami....”

“The objective of this subzone is to limit uses where natural conditions suggest constraints on human activities.”

A Master Plan study for Kanaha Beach Park was done in 2004 for County Parks. IT RECOMMENDED PRESERVATION OF WETLANDS, DUNES & HABITAT



2004 study recommended additional recreational users parking just across the street, preserving dune systems

2004 Kanaha Park Master Plan noted: majority of park lands are in V23 FEMA flood zone



“This restricts the buildable area to an area bounded to the east by the Kalialinui channel and to the west by the existing unpaved parking lot and close to the roadway...the only area high enough with existing grades between 10’ and 13’ high.” (red circle)

Kanaha Beach Park Coastal Ecosystem Restoration efforts have spanned over thirty years



Before Volunteer restoration efforts began at Kanaha Beach Park, the coastline west of the park was a dumping ground: now it is a biological resource



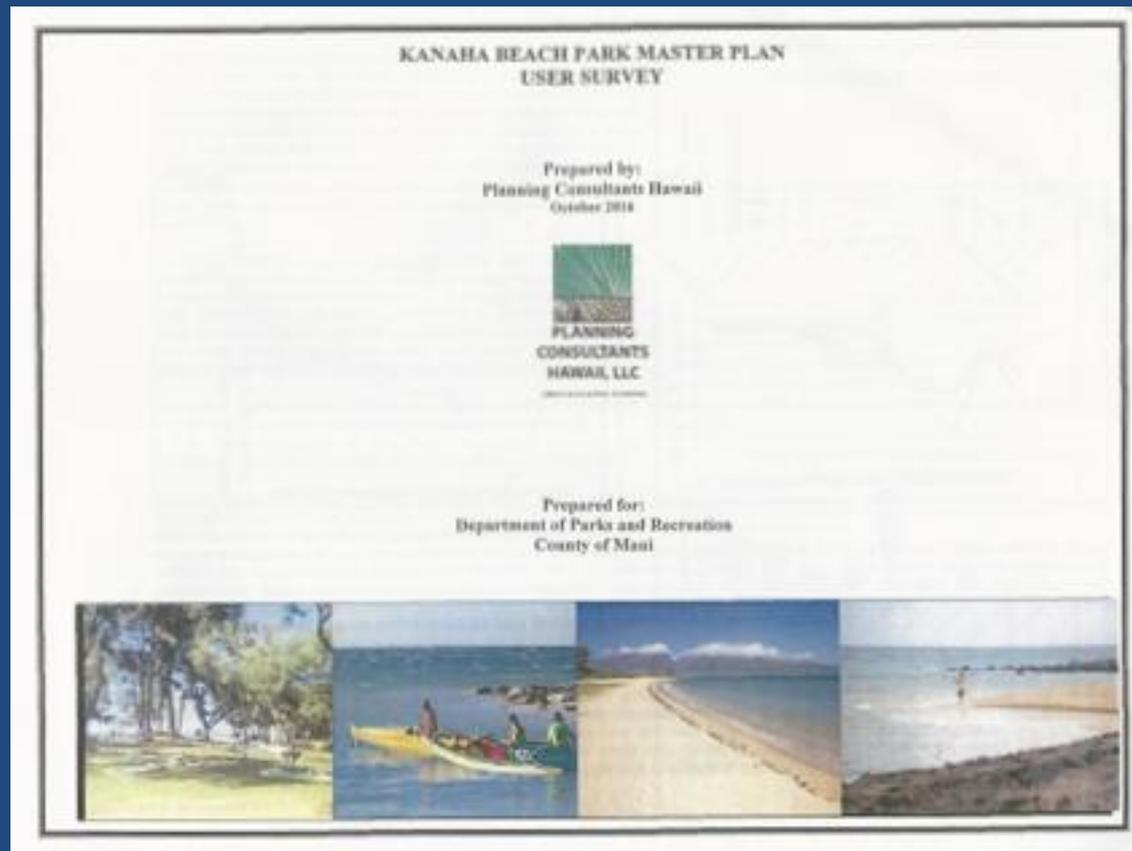
2011: before Dune Restoration



2012: after Dune Restoration



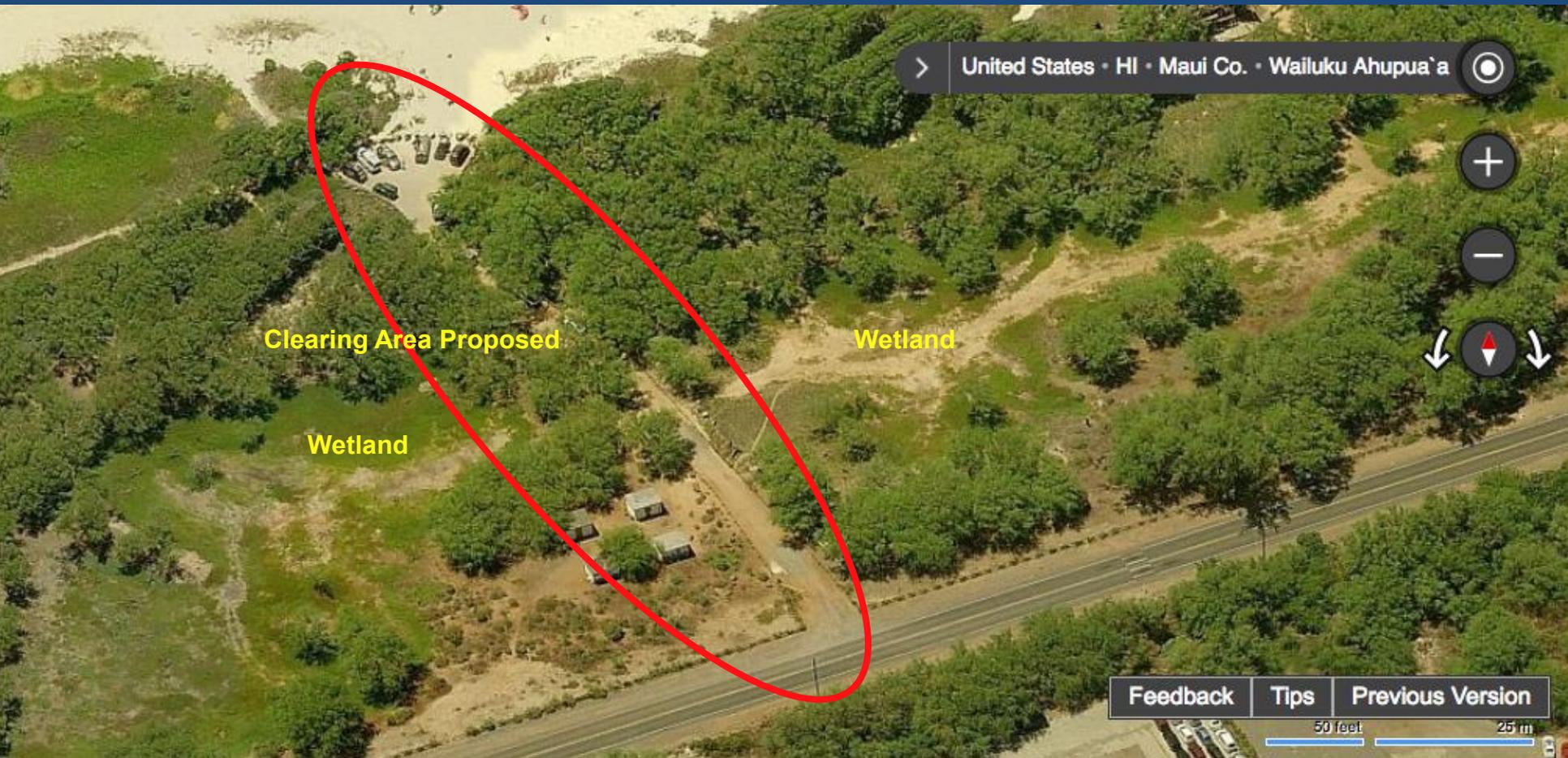
New County **Kanaha Park Master Plan** concept attempts to resolve user conflicts, need for parking, restrooms, ADA access, and impacts of sea level rise..... however, the concept of “carrying capacity” is not well addressed



MG&B supports Park Plan concept to block vehicle traffic from the “Keyhole” area, where existing dirt foot path through wetlands & native habitat allows vehicles to park on the restored sand dunes and beach....



MG&B volunteers intervened in 2013 when county construction equipment attempted to widen the “Keyhole” footpath. We were informed that paved parking was being planned for the widened area....No permits appeared to have been in place...



“Keyhole” foot path and wetlands shown on current Park Master Plan display. Map does not indicate location of mature native plantings....



While the current Kanaha Park Concept Plan proposes to eliminate vehicles and parking from “Keyhole,” it moves the paved parking into an existing restored native plant habitat area, bordering wetlands...



Current Plans for Kanaha Beach Park show other restored habitat areas turned into NEW parking lots



No discussion of additional/relocated parking on mauka side of Alahao street, as recommended in 2004 Kanaha Beach Park Master Plan concept

and the adjacent lands from the high water mark to the property line at the makai edge of Amala Place and Alahao Street. In the West end is the county's Wastewater Reclamation Facility (WRF). At the East end of the planning area is developed land at the end of the Kahului runway.

possible NEW PARKING areas further outside flood zone



Ample space for parking is available on state land across Alahao St. outside of floodzone



Park Entrance

Other beach parks accommodate additional parking across the street
(view: Kamaole Beach park, Kihei)



Grassy amphitheater and grassy picnic areas proposed in New Master Plan concept are impractical: costly to install and maintain. Maintenance of existing park is challenging...





reas



Restaurant/Clubhouse w/ Restrooms & Showers



Proposed Clubhouse/ restaurant is located in FEMA flood zone.

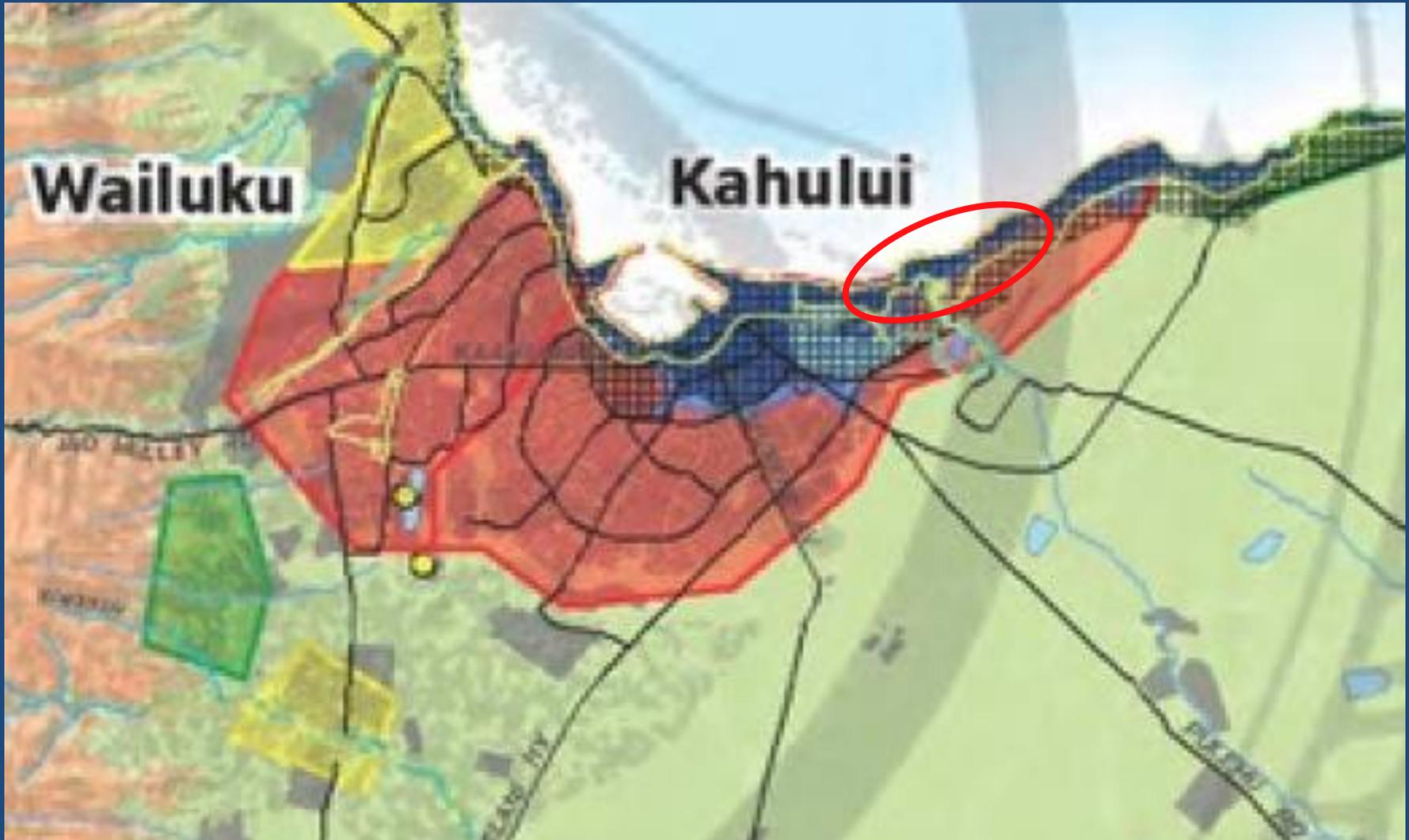
New structures in Kanaha park should be portable, such as proposed restrooms

Proposed Clubhouse/Restaurant site (red circle) in relationship to existing delineated wetlands (blue circles) & existing mature milo/naio/a'ali'i /aki'aki grass, etc native plant habitat areas (green circles)



Hazard Map (proposed for Maui Island Plan.)

Dark blue= areas impacted by 1m. rise in sea levels. Park area = red circle
Cross hatch=tsunami evacuation area. Yellow line = FEMA 100 yr flood zone





Kanaha Beach Park ecosystems work in partnership with the Kanaha Pond ecosystem

**BIOLOGICAL FUNCTIONS of KANAHA BEACH PARK
Must be respected in any Master Plan**

Park's Conservation zoned lands serve as endangered species habitat-

- Provide native seed bank- seeds gathered for Kaho'olawe restoration
- Dunes & native plants protect ocean and groundwater quality
- Restoration area provides resiliency for effects of sea level rise

Friends of Kanaha Park wants to work with County parks to make sure the new proposed Master Plan does not impact the rich biological resources of Kanaha Beach Park

- Plan should reflect input from conservation agencies ie DOFAW, NRCS, etc
- Larger buffers are needed along wetlands
- Wetlands need to be properly mapped
- Proposed new trail is not in appropriate location
- Proposed Clubhouse /Restaurant in floodzone
- Parking areas should be moved mauka across the road to ensure adaptation to sea level rise

Conclusions/ Recommendations

- ❑ Reorganize existing commercial lot at “School Beach”- designated commercial spaces & Install barrier fences to protect native plantings from parking areas
- ❑ Avoid high maintenance grassy landscape areas and proposed grassy “amphitheater”
- ❑ direct parking expansion away from native plants and wetlands to across the street
- ❑ support closure of “keyhole”to vehicles
- ❑ support trailer style restrooms- locate away from native plant habitat
- ❑ Reinstate citizen patrols, add more Park Rangers at Kanaha and possibly food vendors to deter crime
- ❑ Clubhouse/restaurant not good fit in Conservation zone

MAHALO!

